

Information & Communication Technology

Advanced GCE A2 H517

Advanced Subsidiary GCE AS H117

Reports on the Units

January 2010

H117/H517/R/10J

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This report on the Examination provides information on the performance of candidates which it is hoped will be useful to teachers in their preparation of candidates for future examinations. It is intended to be constructive and informative and to promote better understanding of the specification content, of the operation of the scheme of assessment and of the application of assessment criteria.

Reports should be read in conjunction with the published question papers and mark schemes for the Examination.

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Chief Examiner's Report

It was encouraging to see that centres are using different approaches to the delivery of this qualification with some managing to complete the coursework ready for entry in this session.

In general the small number of candidates entered for G064 appeared well prepared and performed reasonably well, however for G063 the general understanding of the technical aspects of the specification was poor and it was apparent that some candidates had been entered without studying all parts of the specification.

Centres and candidates need to be aware that the examination has three elements – the knowledge, the application of that knowledge and the key word in the question. All three are required by the candidate to deliver an answer that is at the level appropriate to gain marks in this qualification. Many candidates have one, or even two of elements, but few have all three and in many instances this is because they have not been given enough instruction in examination technique. Centres are advised to incorporate examination technique into their schemes of work.

G061 Information, Systems and Applications

The quality of the work produced by the candidates was, on the whole, poor. Candidate answers were very generic in nature. Candidates need to know the key terms and be able to apply them. They need to have an understanding of the key terms and concepts. Candidates also need to relate their theoretical knowledge to the practical elements – for example, entity relationships, modelling and templates.

Question	
1a	The majority of candidates identified an advantage but failed to go on and describe it. There appeared to be a lack of ability to apply their knowledge and understanding, picking learnt responses rather than selecting the most appropriate one. This prevented them from choosing a suitable response to give as an advantage.
1b	It was disappointing to see definitions of information being given here. The question focused on knowledge, but the majority of candidates appeared unaware of a difference between information and knowledge.
1c	The response from the candidate required two elements, a description of how the term affects quality and an example, related to the user guide. Many candidates struggled to give a basic description. The examples were completed better but there was still evidence of rote learning and application.
1d	This question was done very well. Candidates that failed to achieve the mark did so because they attempted to describe the terms given rather than identify a specific cost. Even though it is mentioned in the rubric on the front of the paper, some candidates are still using proprietary software names. This does not gain them any marks.
2a	The majority of candidates achieved the mark for this question.
2b	The question required the candidate to apply their knowledge. The answer had to be one that required the use of the backup – responses involving power cuts did not gain credit.
2c	An explanation is looking for a reason why. USB has been selected – the candidate has to justify this choice with a reason. Many candidates gave superficial answers that included identifying a range of points without going into the depth required to qualify as a reason.
3a	The technical aspects of the specification are infrequently asked and when they do appear the responses given are poor. The candidate needs to show some detailed understanding of the subject matter related to their course of study.
3b	Most candidates were aware of the difference between software and hardware and gave software based responses. They were not aware of the difference between application and utility software. It was disappointing to see a large number of proprietary names being given. Some candidates repeated the example which was given in the question.
3c	Candidates should read the whole question and not focus on specific terms within it – such as physically disabled users. It was apparent that a large proportion of candidates answered the question from last session's paper which was hardware related and not the one from this session that focused on software.
3d	The majority of candidates achieved both marking points. Those that did not gave input devices in their response.

Question	Commentary
3e	Many candidates successfully identified reasons but failed to continue their response and give a description. Some of the reasons given overlapped with each other.
4a	It was disappointing to see the responses to this question. The majority of candidates were able to create a diagram using the entity names given but many were not able to correctly link them together or apply the correct degree of relationship. Some candidates did not give a relationship between entities and others made up entity names, not using those supplied.
4b	This is a question that requires the candidate to regurgitate a learnt response. Whilst a large proportion gained one mark, it was disappointing to see that many did not have the depth of knowledge to gain the second.
4c	Many candidates gave lots of individual, valid points but did not expand any of them. This limited them to half marks.
4d	This question required the candidate to apply their knowledge. Not all validation methods are appropriate for all data types and it was disappointing to see that candidates were regurgitating their knowledge without applying it and thus losing marks. However, very few candidates gave answers relating to verification.
5	The majority of candidates were able to achieve half marks on this question with identifications but lacked the depth of understanding to explain their answers.
6a	A characteristic is a facility or option that the software possesses. Candidates were given an example to assist them in the stem of the question. Unfortunately, many candidates went on to use the stem example in their response and gained no marks.
6b	There was some confusion by candidates over this question – a large proportion gave responses that were more suitable for 6(a). Most managed to achieve one mark but lacked the knowledge or understanding to gain more.
7	For the majority of candidates this was very well answered. A sequential approach to the stock control system appeared to be the best way to answer the question. Those candidates that failed to achieve high marks did so because they identified six characteristics rather than describing.
8a	Full marks were gained by the majority of candidates for this question.
8b	The focus of the question was on the use of macros within the web authoring software – not the use of macros on the website. Many candidates regurgitated learnt responses on the advantages of macros without reading the question.
9a	This was a very divisive question – candidates either knew what a style sheet was or they did not. The majority, unfortunately, did not.
9b	A significant number of candidates were unaware of a difference between a style sheet and a template and were therefore unable to describe the difference. Many candidates indicated that templates only exist as part of the software package and are not created by the user.
9c	Sections were described as being different parts of a document whilst footnotes were seen as an incorrect spelling of footer. Those candidates that did show a correct awareness of the meaning of the terms failed to give an appropriate example.
10a	A description of everything that is known about both elements is not a comparison and achieved no marks. Whilst candidates were aware of the use of a computer and projector to give a presentation, it was evidence that they had not seen and were not aware of acetate. A large proportion of candidates were of the opinion that acetate could only be handwritten and not printed.

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Question	Commentary
10b	For the majority half marks was easily attainable. Many candidates failed to progress with their answers and give a description of an advantage. Some candidates failed to understand that timings can be placed on automatic transitions which allows for time to be given within the presentation for a speech. Some candidates repeated a previous point using different phrases.
10c	The examples given were weak and often not related to the use of automatic transition. Examples need to relate to the scenario (not museums, parents' evening, school assemblies etc).
10di	A large proportion of candidates did not know what a non-linear presentation was. Those that did found half marks easily attainable but struggled for the second mark.
10dii	As a continuation from the previous question, its advantage is related to knowing what it is. Again, this question was poorly answered.
10diii	The examples given were weak and often not related to the use of non-linear presentations. Examples need to relate to the scenario.
11	The responses to this question indicated that candidates had limited knowledge of the RIP Act. The additional difficulty for those that did know something about the RIP Act was that the question being asked required a detailed response which the majority were unable to provide.
12	<p>Many candidates used this question to write everything they knew about email, internet and social networking. Giving the advantages of different forms of communication does not create the opportunity for candidates to gain the higher marks.</p> <p>Very few candidates were able to explain the impacts and consequences that the different methods of communicating would have on the customers and / or company. Poor examination technique or lack of exam practice tended to let the higher ability candidates down with this question.</p>

G063 ICT Systems, Applications and Implications

General Comments

In this, the first examination session of the specification, the performance of the candidates seems very similar to recent examinations held at this time; candidates had either been very well prepared for the paper and were able to answer questions based around the technological aspects of the specification with aplomb, or their attempts at many of the questions highlighted a woeful lack of knowledge.

Centres that prepare their candidates appropriately will cover the requisite technical vocabulary and in so doing give their candidates ample opportunity to demonstrate their knowledge clearly, giving them every chance of gaining maximum marks. These centres are to be congratulated and encouraged to share good practice.

However, a significant number of candidates still ignore the questions' wording and particularly the keywords which should hold an indication of how to structure a response. These approaches are unlikely to gain a mark that takes a candidate beyond the threshold of an E grade.

In addition to this, centres should demonstrate to candidates that an ample amount of space is given in which to write a response. Unless a candidate's handwriting is abnormally large, this should prove sufficient.

Following this session in particular, centres should remind candidates that it is difficult to award marks when handwriting is illegible. Many scripts had to be interpreted before examiners could mark the content. Whilst every effort is made to credit a correct answer, if an examiner can not see such an answer it is unlikely that candidates will gain a final mark that is perhaps more befitting their ability.

Comments on Individual Questions

Section A

Question 1

- a) (i) Candidates drew upon their experience of completing G064 in answer to this part question, with many gaining both marks for identifying the purpose of this stage of the systems life cycle and the methods used to successfully complete it.
- (ii) Most candidates identified the link between this stage and that mentioned in part (i), detailing how a set of objectives were used as a guide to completing interfaces and data structures. Whilst gaining both marks, a broader appreciation of this stage was not evident.
- b) With only a small number of exceptions, the majority of candidates gave a description of how RAD is utilised and not a factual description of RAD itself.
 - b) Almost without exception, many awards of full marks were seen for this part question. The terms used were specific and generally observed the keyword within the question which encourages brevity of answer.

Question 2

- a) Three straightforward definitions for three marks were required. The rote learning that took place to cover these points often did not allow candidates to consider third party involvement which deprived them of full marks.
- b) Many candidates took the wording of this question and contorted an answer from it; without the element of time though, these responses did not gain a mark. Candidates' knowledge seemed to stop at the idea of use at any given time by only one person and some answers floundered when trying to describe anything over and above this concept.
- c) Whilst the majority of candidates will be able to detail the advantages and disadvantages of client-server networks from experience, detailing the disadvantages of peer-to-peer networks seems limited to having no central server with little consideration of how this affects individuals on the network.

Question 3

- a) Candidates were well able to detail the purpose of a switch within a network for both marks.
- b) Whilst the purpose of a network interface card was equally well documented, the mention of MAC addresses (often with a full and accurate expansion of the acronym) was commonplace in gaining the second mark for candidates.
- c) However, many candidates suggested the 'repeating' or 'passing on' of a signal for this component in the vain attempt of capturing a mark without mentioning amplification or retiming first.

Question 4

Unfortunately, many candidates gave 'limited bandwidth compared to copper cabling' as an answer for this question. Further confusion saw the facilities of ADSL being mentioned along with (perhaps more worrying still) health and safety issues involving tripping. Too often the financial viability for a small business was put forward by candidates in an attempt to dismiss the whole idea, an approach which limited marks. Over and above 'cost' many candidates found it difficult to describe three distinct advantages of using fibre optic cabling to connect two buildings together.

Question 5

Whilst the relative advantages and disadvantages of using email and fax are well documented by candidates as separate methods of communication, the ability to construct a comparison of both was only seen for single marks, with many misconceptions about both methods being evident. Three comparisons of email and fax were needed for three marks.

Question 6

The purpose of professional bodies needs to be covered by centres before candidates can construct an answer detailing the advantages of belonging to one such as the BCS. Too many responses suggested the guarantee of work, boosting credibility on a CV and 'shield of steel' protection from the law just by belonging to this particular professional body. Thankfully many candidates showed an objective consideration of the working benefits for the network manager which were easily translated into a real world scenario.

Section B

Question 7

- a) Whilst many candidates gained full marks on this part of the question which was pleasing to see, many achieved this in compact sentences (usually covering deadlines and budgetary constraints) at the end of the answer. The draconian approach to project management detailed by some candidates is, thankfully, uncommon and one which will not gain any marks.
- b) Very often, candidates were able to gain full marks for three different descriptions of the methods a systems analyst might use. Where candidates did not gain full marks, an identification of a method was given but this was followed by a description of where it is used rather than a description of the actual technique itself.
- c) Most candidates were well able to put forward responses which showed an appreciation of instant data processing. The key to full marks here was the explanation of why this has to take place for the airline company and its effect on individuals.
- d) Similarly, a full explanation related to the context, over and above the basic advantages of having a network, would gain candidates maximum marks here. The effect on individuals was often well expressed.

Question 8

For all marks to be awarded, three internal resources relating to the context had to be identified in the first instance. On the whole, most candidates were well able to achieve this. Significantly, a pleasing number were then able to offer accurate expansions of each identification giving them maximum marks.

Question 9

- a)
 - (i) Whilst candidates' responses did not necessarily have to relate to the scenario, many found it difficult to eloquently describe just what a mental model is for both marks.
 - (ii) The key to a successful answer for this part question was an accurate description in part (i). Failing this, answers were limited to vague attempts at associating elements within a user interface and preconceptions of where icons should be placed.

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- b) It was hoped that this question would provide the opportunity for candidates to gain marks, given that this topic appears throughout the levels of award leading up to A2. Methods of validation were accurately stated, expansions were articulately written and examples more often than not related fully to the scenario. A well earned six marks for a good majority of the candidature.
- c)
 - (i) Many candidates relied upon 'a CLI is for advanced users' type answers in the gamble for a single mark, but it was the comparison with a form that actually gained the marks. The ability to compare both these methods accurately was not often seen, with many candidates making vague statements such as 'quick, fast' and 'easy'.
 - (ii) However, describing just one disadvantage of speech as a method of input saw many candidates investing in an award of both marks, whilst many would have been able to gain further marks, had they been available, with accurate descriptions of use within an airport environment.
 - (iii) Those that observed the word 'other' in the question more often than not gained this single mark for a method of dialogue, with biometric means being a very popular response.
- d) Again, for a learning outcome that appears in various guises throughout the different levels of award within this subject, the confidentiality of data is one which attracts very accurate responses which generally gain all marks available. The use of technical terms here is as important as anywhere, as those responses which fell short of full marks relied upon vague expansions of accurate methodologies.
- e) The role of reviews does not seem to have been considered by candidates over and above 'continued satisfactory performance' with many responses focussed upon reviews after project completion rather than considering the entire life span of the system.
- f) An award of a single mark was commonplace for stating what perfective maintenance is. Exemplifications how this occurs for the second mark were few and far between.

Question 10

Clear statements of the advantages of selecting a custom-written solution were evident. Implications for the airline company of taking this course of action waned beyond that of 'performing only the functions the airline needs' and 'no redundant features which take up memory'. The wider implications of selecting a custom-written solution such as recouping development costs by sale are the type of insights which will secure all of the available marks.

Question 11

Candidates are now well instructed about the construction of 'discuss' questions. The methodology used by many was admirable. The points to discuss were chosen accurately and with some consideration; many had the ability to detail the impacts, for the employees, of the introduction of a software-based training system. Whilst many candidates are able to detail a single consequence of such an impact, too many candidates are still, frustratingly, unable to extend this obvious ability and deal with the multiple consequences of this method of training from either a positive or a negative viewpoint. The impacts and consequences of both viewpoints were rarely evident and marks given in the highest banding were almost unseen.

Question 12

In comparison to the points made above for Question 11, candidates tended to concentrate on the act of consultation for this question rather than considering change management as a whole. The impact of methods used and the timing of such events were touched upon, but the consequences for both management and workforce were not related as well as they should have been which, for many, was a disappointing conclusion to an otherwise well executed paper.

G064 ICT Project

Principal Moderator's Report

Candidates tackled a range of projects and it was pleasing to see that a number had attempted website and spreadsheet projects in addition to the traditional databases. There were differing degrees of success in achieving this and some centres need to carefully consider how candidates will meet the requirements for data processing and production of a non-linear solution if they tackle websites. Some candidates focussed too much on the aesthetic design of the website and not enough on the processing of collected data, which meant they limited their potential marks.

Some candidates produced more evidence than was necessary, particularly in the software development stage; it is not necessary to produce step by step screenshots of the development of every aspect of the system. Extra screenshots merely add to the bulk of the coursework and take more time for the candidate to produce and the teacher to mark.

Some centres had misinterpreted the marking criteria in places and it is recommended that centres refer to the guidance documents on the OCR website in order to clarify marking points as this is a new unit. In addition, there were cases where some work was not filed into the correct sections; for example sometimes analysis and investigation sections were mixed up and on occasion some software development was marked within the design section. It is helpful if candidates follow the structure of the marking criteria and present their work under those headings in the same order.

The teacher annotation of work varied between centres but is extremely helpful when done. It is good practice for teachers to either annotate the work or the marking criteria to note where and why marks have been awarded in the various sections. This also allows moderators to give more precise and useful feedback to centres.

- ai) The vast majority of candidates gained full marks on this section and it was completed satisfactorily.
- aii) This section was frequently over-marked by centres. In order to gain the first mark in this section candidates must consider why they are choosing an interview and consider the why, where, when and who of it. There should be evidence of communication between candidate and client. In the second section, candidates frequently gave no reasons for asking their questions and the marking criteria clearly states that questions should be reasoned. This means that all questions, or groups of questions on the same general area, should be given a reason which shows why the candidate decided to ask it. In addition, possible follow up questions were not given enough consideration in many cases.
- aiii) Although this section presented few problems on the whole, it should be noted that many of the requirements specifications were generously marked. Requirements specifications must contain very specific requirements which can be measured for success during the testing and evaluation stages. Candidates also did not fully consider the hardware and software requirements; for example, paying no consideration to email software even though a requirement of the system might be to send emails.

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- bi) Candidates generally produced very clear and complete designs, but centres who have candidates tackling a project with two elements (for example a website with a database back-end) should ensure that candidates are aware of the need to show designs for the database as well as the website pages. In addition, although flow charts and data flow diagrams are not essential requirements of the project, the candidate must have some way of showing the data flow in their system. Structure diagrams and file structures are helpful in gaining the pupils the first 4 marks in this section.
- bii) The project plan only needs to encompass plans for the software development and test plan stages of the project. The dates should roughly tie in with those in the activity log/diary.
- ci) Many candidates completed excellent test plans in this section. Those who gained low marks here, lost them because they had not fully considered the testing of validation rules, buttons and had not fully tested against the requirements specification. All tests in the plan must be carried out and evidenced in order to achieve full marks for the last part of this section. Candidates who produced a linear project with one method of processing for one output, can achieve no more than 2 marks for software development. Many candidates failed to achieve the marks for evidencing an effective HCI in this section. It is a specific mark point on the marking criteria which should indicate that candidates need to make specific reference to the HCI and comment upon how it meets the requirements of the client.
- cii) This section was done quite superficially in many cases. Although it is accepted that many candidates will not actually install the software, this section should allow them the chance to carefully consider how they would install it and train the staff. For 5 marks it is expected that candidates will consider the alternative changeover methods, installation processes including how data files will be created or transferred, the timescales and any limitations they may face. They should also be consulting with the client about training needs and carefully considering how these can be met.
- d) User guides were very comprehensive and candidates on the whole knew how to present these effectively. Use of screenshots was excellent and candidates tended to use accurate contents pages, page numbering and/or indexes. Candidates should be aware that the guide should cover all aspects of the system and presentation is important.
- e) This section was also very well done in many cases, with candidates correctly evaluating the degree to which they met the requirements of the client. User testing and evaluation is a vital component of this section which most candidates did well.
- f) Presentation was not particularly strong in many cases. Candidates are expected to have an appropriate means of navigating the project, including page numbering, section headings and appropriate sub-headings. Spelling and grammar is taken into account in these marks too.

Grade Thresholds

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Unit Threshold Marks

Unit		Maximum Mark	A	B	C	D	E	U
G061	Raw	120	73	63	53	43	33	0
	UMS	120	96	84	72	60	48	0
G063	Raw	120	68	60	52	45	38	0
	UMS	120	96	84	72	60	48	0
G064	Raw	80	64	56	48	40	32	0
	UMS	80	64	56	48	40	32	0

Specification Aggregation Results

Overall threshold marks in UMS (i.e. after conversion of raw marks to uniform marks)

	Maximum Mark	A	B	C	D	E	U
H117	200	160	140	120	100	80	0

The cumulative percentage of candidates awarded each grade was as follows:

	A	B	C	D	E	U	Total Number of Candidates
H117	3.9	16.5	51.9	84.3	97.2	100	412

412 candidates aggregated this series.

For a description of how UMS marks are calculated see:

<http://www.ocr.org.uk/learners/ums/index.html>

Statistics are correct at the time of publication.

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